COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

October 25, 2006 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Harkless

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Vernita Bar Operations

Russell Langshaw, Grant County PUD, reported that ground surveys thus far had shown no redds yet, and that Fall chinook were just beginning to spawn. A study design has been developed for this year that operates Priest Rapids in a series of short sharp peaks, the specifics of the operation to be determined by projected river flows. As in the past, if 31 redds are seen above 70 kcfs, the project will operate to reverse load following. Russell shared a slide 'example' of what the operation might look like this year during the study.

ACTION: Several questions were raised about the study and who has been involved in the study design. Russell will share this information with Cathy Hlebechuk to pass along to the TMT. He will attend the next TMT meeting to provide updates on information gathered from the study, which began on 10/16.

Impacts from June Libby Operations

Brian Marotz, Montana Parks, Fish and Game, provided a power point presentation of gas bubble trauma detected in bull trout and other Kootenai River fish this year. His power point can be found attached to today's agenda.

The Fish Passage Center suggested that in the past, they have also looked at *severity* of gas bubble trauma to glean additional insights to TDG effects on fish. This could be done for the fish already sampled.

Next Steps: There was some discussion about decisions made during the year that might have impacted the condition of the fish in Brian's study; there will be a fuller discussion of his study and report as well as the COE's "After Action" report (which will be presented on November 6 in Bonners Ferry) during the TMT Year End Review in December.

Lake Pend Oreille Lake Trout Research

Russ Kiefer, IDFG, reported on sampled lake trout from Lake Pend Oreille in 2006. His slides can be found linked to today's agenda. Idaho hopes to continue working with TMT to develop a decision tree for Lake Pend Oreille operations in the future that will guide decisions to ultimately provide win-win-win results: for resident kokanee, chum, and power interests. This year's survey suggests that the lake trout spawned much deeper than researchers had anticipated.

Treaty Fishing
Kyle Dittmer, CRITFC, shared a review of this year's Autumn treaty fishing, showing that the COE met CRITFC's requests for a 1' operating range 94% of the time at Bonneville, 84% of the time at The Dalles, and 60% of the time at John Day. The COE's hard constraint of a 1.5' range at Bonneville was met 99% of the time. Ultimately, there have been no reports of any gill net problems this year, indicating a successful fishery. Kyle added that improvements in communication between CRITFC and the COE have led to more successful operations and fishing for the tribes.

Final Burbot SOR
As follow up from the 10/11 TMT meeting, the final USFWS SOR for burbot/Libby operations was posted on the TMT web page. It included additional language in the justification section, per COE suggestions at the 10/11 TMT meeting, but no changes to the specifics of the operation were made. Cathy Hlebechuk, COE, shared information on which selector gates at Libby had been removed based on the request. The table was linked to today's agenda. Cathy welcomed anyone to call her with additional questions about the operation.

Next Steps: It was suggested that the TMT Year End Review include a discussion on WY 2005 burbot operations and how they affected the request for this year's burbot operation.

Chum
A TMT conference call will be held on 11/1 to discuss chum: numbers, operation start date, etc. Rick Kruger, ODFW, shared information on past year's operations and chum numbers, noting that in the last five years, the earliest spawning initiation date was November 4. The COE requested that the salmon managers develop an SOR for chum operations before the 11/1 meeting, if possible. The salmon managers were reminded to consider Ken Tiffan's research as well as the weather conditions up to this point when developing their recommendations.

2007 WMP
Russ Kiefer reported that his written draft comments on the WMP are undergoing internal review and will be sent to the COE as soon as possible. CRITFC noted they are planning to submit comments as well. A 2007 WMP Update will be added to the 11/8 TMT agenda.

Operations Review
Reservoirs: Grand Coulee was at elevation 1286.4' and passing inflow. Hungry Horse was at 3536.52' with lower than normal inflows, and drafting to meet Columbia Falls minimums. Libby was at elevation 2436.7' and releasing 4.4 kcfs. Dworshak elevation was at 1518', releasing 1.5 kcfs. Albeni Falls was at 2056.1' and averaging 28 kcfs outflows. Lower Granite was in the range of 15-19 kcfs flows, and McNary average flows have been in the range of 75-100 kcfs.

Fish: Adults – Cindy LeFleur, WDFW, reported that upper chinook adult numbers have been strong and that most are currently or just ending their spawning. Spring Creek hatchery numbers are not as strong this year, and jack numbers are low. Upriver bright numbers are strong.

Juvenile numbers saw a slight increase at Lower Granite but fewer numbers at Little Goose, indicating that more of these fish are over-wintering vs. migrating to the ocean. Spring Creek juvenile numbers were decreasing.

Power: Nothing to report at this time.

Water quality: Jim Adams, COE, reported that operators at Dworshak had scheduled to switch the project to overshot mode around October 31, as in past years. Current temperatures were around 49 degrees. The USFWS commented that generally, 52 degrees is the 'threshold' for the hatchery, and requested the project remain as is for as long as possible, if the COE does not need to switch to overshot mode from an operational perspective.

ACTION: Dave Wills and Jim Adams will coordinate with the hatchery and Dworshak operators to determine the best operation. They will update TMT on the result of that coordination at the 11/1 TMT conference call.

Other: BPA noted that Lower Granite MOP restriction was lifted on 9/22 and had instructions (per Salmon Managers) to only fill at night. The project is currently operating within 1' of full and BPA made a request to lift the restriction of only filling at night. TMT members agreed to check with their respective agencies on this and give the COE a response by the end of this week, before the COE issues a teletype. **Update**: Russ Kiefer notified Cathy Hlebechuk the Salmon managers had no problems with Lower Granite filling at night. The Corps issued a teletype as such, and Cathy emailed TMT on 10/27 of the lifting of the restriction.

TMT Schedule

11/1 Conference Call agenda:

- Chum operations
- Dworshak operation update

11/8 Face to Face meeting agenda:

- Vernita Bar Update
- Chum Operations
- Draft 2007 Water Management Plan/Comments Review
- Burbot Update
- Operations Review

Technical Management Team Meeting Notes

October 25, 2006

1. Greetings and Introductions.

The October 25 Technical Management Team meeting was chaired by Cathy Hlebechuk and facilitated by Robin Harkless. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these notes should contact Hlebechuk at 503-808-3942.

2. Fall/Winter 2006 Vernita Bar Operations.

Russ Langshaw of Grant PUD said he has posted the results of the last two redd count ground surveys for Vernita Bar online; no redds have been found to date on the ground, but 45 redds have been seen in the reach in aerial surveys. Last year at this time, we had found one redd, so this is not out of the timing range of recent years, Langshaw said.

I have also provided examples of the flow regimes we're implementing this fall, Langshaw said; we were directed to experiment with flows during the 2005 and 2006 spawning season. This year's operation calls for short sharp peaks with a low, steady base flow; we have tagged some fish and will be tracking their response to changes in flow. The graph posted on the web shows what we did over two of the days; on October 20, mean inflows – Rock Island discharge – were around 65 Kcfs, so we had a single peak that started at 6 am up to 175 Kcfs, which lasted a couple of hours We then dropped back down to a base flow of about 55 Kcfs the rest of the day, he said. On October 23, we had mean inflows of about 76 Kcfs, so we needed two peaks to pass all the water – one from 6 am-9 am up to 175 Kcfs, then back down to 55 Kcfs until 5 pm, at which time a second peak was initiated, lasting until 8 pm. In other words, our base inflow will dictate the number, duration and size of the peaks, Langshaw said. So far, there are very few fish and no spawning activity on the bar – we have only tagged two fish to date, and as soon as the fish start coming in, we'll have more to report.

In response to a question, Langshaw said Grant PUD is trying to plan this operation on a weekly basis, but operations will be modified daily as needed. Is there a study design posted anywhere? David Wills asked. I don't believe it is posted, but we worked with all interested parties, including CRITFC and American Rivers, to develop the study design, Langshaw said.

The group devoted a few minutes of discussion to the potential effects of these short, sharp flow increases on spawning fish; Bill Hevlin said he is astounded that people would agree to this operation without knowing its effects on the spawning population. We know that the redd site selection process is quick – within 4 hours, Langshaw said – we wanted to limit the impact of these high flows by keeping them to less than four hours. We also found, last year, that these fish don't move very much, even when flows peak. In other words, we don't think these flows will blow the fish downstream, based on last year's tracking data, he said. Given the number of questions

that have been raised, it might be a good idea to pass the study design along to Cathy Hlebechuk so it can be posted to the TMT website, Harkless suggested. I will do so, and will be providing further information at upcoming TMT meetings, said Langshaw. In response to another question, Langshaw said the 2006 Vernita Bar study started on October 16.

3. Impacts to Fishery Downstream of Libby Dam As a Result of June Operation.

Brian Marotz led this presentation, touching on the following major topics:

- Flow pattern downstream of Libby – spillway flow hugs the left bank (looking downstream); full mixing occurs 7-8 miles downstream. At Kootenai Falls, 35 miles downstream, the narrow stretch of the river increases the water velocity and tends to reset gas levels to 116%.
- 2006 Libby Dam hydrograph – any flow above 24 Kcfs is spill, and spill occurred in 2006 from June 8-June 27, due to lack of storage capacity in the reservoir. Gas exceeded the 110% standard from June 8-27 – TDG levels peaked at 132%, and were consistently in the 122-125% range.
- Sampling started on day 4 of the spill; 35% of the fish sampled had signs of GBT on day 4. Gas bubble trauma is additive; field personnel saw gas bubbles in fins, in the vitreous humors of the eye, and in the dermis of fish sampled, which raises the specter of secondary fungal or bacterial infection. By next year, we'll have a better idea of the effects of the 2006 operation at the population level, Marotz said.
- 2006 sampling areas
- By day 7 of spill, all bull trout sampled showed signs of GBT.
- Photos of fish sampled in 2006, showing examples of GBT
- About two weeks into spill, all species sampled were at or near 100% signs of GBT – cutthroat trout, bull trout, rainbow trout and mountain whitefish. Depth compensation reduced signs of GBT, but as fish came to the surface – particularly trout species – signs became additive, with some fish hemorrhaging through the dermis.
- Some dead fish – cutthroat, bull trout, rainbow trout and whitefish – were found, although the numbers were difficult to quantify.

I will provide a further update once we finalize the data from the 2006 survey, Marotz said. In response to a question from Hlebechuk, Marotz said bull and rainbow trout can spawn many times before they succumb to old age. And how many fish did you sample for signs of GBT? Cindy LeFleur asked. We were attempting to get 30 fish from each bank and each species every night, but were not always able to achieve that, Marotz replied. A total of 412 fish were sampled for signs of GBT over the four sampling days.

The discussion turned to the operations that preceded the spill event at Libby. Could all of this have been avoided if the Corps had begun to release the water for

white sturgeon earlier? Kyle Dittmer asked. Yes, Marotz replied. I would remind everyone that there were several factors involved in the decision about when to begin the sturgeon release, Hlebechuk said – prior to mid-May all forecasts were pointing towards a normal water year. There was no indication the project would fill and spill. We got an incredible amount of runoff starting in mid-May due to warm temperatures and rain on snow. Then, in June heavy precipitation continued. In addition, the sturgeon recovery team recommended that the release not begin sooner than May 16 as they preferred warmer river water. In other words, she said, it's easy to second-guess the operation now, but we need to keep in mind the conditions we faced at the time. The Corps expected to release 10 Kcfs above turbine capacity during the sturgeon migration, Marotz observed; the Kootenai Tribe was concerned about that, and asked that the Corps release turbine capacity only. There were times during May that the Corps couldn't have released turbine capacity because of high inflows downstream – Bonners Ferry would have exceeded flood stage. The timing of the releases that occurred in 2006 were not very beneficial for sturgeon spawning, Marotz said – it came too late.

The group briefly discussed the 2006 VARQ operation; it was agreed to postpone substantive discussion of this topic until after the release of the Corps' After Action Review.

4. Lake Pend Oreille Lake Trout Research.

Kiefer updated the group on IDFG's efforts to look at the impacts of this year's Lake Pend Oreille operation on the lake trout species. IDFG field personnel have been conducting night surveys in the shallows of the lake, he explained; figure 2 shows, to date, the shoreline areas we have sampled for adult lake trout spawning. Our hope is that this year's operation will impact recruitment, he explained. To date, we have seen only a few single adults, which leads us to the conclusion that the lake trout spawn deeper. We will soon switch to an operation in which we look for birds feeding on lake trout eggs. The bottom line, said Kiefer, is that we don't feel that we have impacted lake trout spawning through this year's operation at Lake Pend Oreille; we would like to work with the TMT to improve the decision tree governing Lake Pend Oreille/Albeni Falls operations in the future, he said. The sooner USFWS/NOAA can tell us what lake elevation they want to maintain in the winter the better, said Hlebechuk – if you could tell us by mid-September, that would be ideal. Early notification will make it easier for us to determine how long the lake can be held high.

5. 2006 Treaty Fishing Summary.

Dittmer led this presentation, touching on the following major topics:

- Summer treaty fishing summary – seven weeks of fishing, total, during the summer period; during the fishery, the tribes ask that the three zone 6 pools – Bonneville, The Dalles and John Day – be held within a one-foot operating range. The Corps annually agrees to operate Bonneville Dam within a 1.5-foot range.
- 2006 compliance with CRITFC's requested elevations: 94% at Bonneville (down 6% from 2005), 84% at The Dalles (up 2% from 2005), 60% at John Day (down 10% from last year).
- 2006 compliance with Strong/Mogren 1 ½' Bonneville operation was 99%.
- No major incidents of net loss were reported in 2006.

It would help if you could also give us information about the Corps' compliance with what they agreed to do, Kiefer said. I can provide that, Dittmer replied. Hlebechuk noted that the operation the Corps agreed to implement during the treaty fishery is dictated by the 1998 agreement between Ted Strong of CRITFC and Col. Mogren. She added that CRITFC's requested treaty fishing operating range at John Day is outside the operating range specified in the BiOp. Dittmer said CRITFC is in the process of re-examining the 1998 agreement. You may want to change the summer operating range at John Day to 262.5-264 feet for next year, Hlebechuk said – that is the range we're required to operate the project under the BiOp.

It sounds as though, overall, the 2006 operation was pretty successful, Harkless said. Yes – no major problems to report, and the fishing was good, Dittmer replied.

6. Final USFWS Burbot SOR.

The reason for this agenda item is to acknowledge that the final burbot SOR has been submitted, said Wills; the only real change is that the justification section was expanded. The specifications of the SOR did not change, he said. Implementation has now begun, Wills added.

Hlebechuk provided an overview of the operation that is being implemented as a result of this SOR, noting that the SOR requests the lowest possible water temperatures out of Libby. We're using the selector gates for units 1-5 to draw water from the bottom of the reservoir, she explained. Hlebechuk also provided a brief review of the temperatures achieved during previous years' burbot operations. She invited anyone with questions about this operation to contact her or Greg Hoffman directly. It was agreed to get a further update on this topic at the TMT's year-end review.

7. Chum Salmon.

Rick Kruger said ODFS' chum spawning surveys have now begun, but no chum have been seen to date. Historically the date of first sighting of chum below Bonneville has ranged from October 28-November 9. In the majority of those years, the first sighting has taken place in the first week of November, he said; the first redds are typically seen between November 4 and November 12. In other words, he said, we should definitely begin providing chum spawning flows by the first week in November – we need to be sure the fish can access the spawning areas as soon as they arrive. The only thing is, we need to be cautious about using up all of our available water from Grand Coulee, said Robin MacKay – we have had a dry fall, and once we bring flows up to whatever spawning level we pick, we will likely start drafting Grand Coulee. We may want to wait until there are more than a few chum spawners before we initiate this operation, she said. In response to a request from Hlebechuk, Kiefer said the salmon managers will provide an SOR covering the 2006 chum operation. In all likelihood, it will be similar to the 2005 SOR, which requested a baseline Bonneville tailwater elevation of 11.5 feet.

A TMT conference call to check in on the status of chum spawning was scheduled for November 1.

8. 2007 Water Management Plan.

Bern Klatte said that, to date, he has received comments only from NOAA Fisheries. Kiefer said he has written comments, but they are currently undergoing IDFG policy review. Wills and Dittmer said the Fish and Wildlife Service and CRITFC, respectively, are also planning to submit comments.

9. Operations Review.

Reclamation said Grand Coulee is at 1286.4 feet and passing inflow, essentially full for this time of year. The current Hungry Horse elevation is 3536.5 feet; the project is operating to meet the Columbia Falls minimum – precipitation in the basin has been extremely low so far this fall. The Corps reported that Libby is at elevation 2436.7 feet, with 4.4 Kcfs outflow. The current Dworshak elevation is 1518; the project is releasing minimum outflow, 1.4 Kcfs. Albeni Falls is releasing 28 Kcfs and is expected to draft to elevation 2051 by mid-November. Flows at Lower Granite have average 15-19 Kcfs over the past week; at McNary, 75-100 Kcfs at McNary.

LeFleur said the tail end of the upriver chinook run has been strong; most of the adult fish are either spawning or getting ready to spawn. The Spring Creek Hatchery run was not very strong this year; the jack run was also pretty poor, which doesn't bode well for that stock for next year. The upriver bright run was strong in 2006. On the juvenile side, we are seeing higher subyearling passage at Lower Granite, but that drops off sharply by the time you get down to Little Goose – in other words, the fish are moving a little bit, but we're not seeing a lot

of directed ocean migration – we have significant numbers of subyearlings overwintering in the river system, a common pattern for this time of year.

MacKay said there are no power system problems to report at this time. Jim Adams said there are a few water quality issues to report; the operators at Dworshak would like to switch the units back to overshot mood. He provided information on the current Dworshak thermocline. After a brief discussion, the salmon managers said they would prefer to hold off on switching to overshot mode, at least until after October 31.

10. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, November 8. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT Participant List
October 25, 2006

Name	Affiliation
Robin Harkless	Facilitation Team
Brian Marotz	Montana
Russ Kiefer	IDFG
David Wills	USFWS
Robin MacKay	BPA
Cathy Hlebechuk	COE
Tony Norris	USBR
Rick Kruger	ODFW
Cindy LeFleur	WDFW
Tim Heizenrater	PET
Jim Adams	COE
Kyle Dittmer	CRITFC
Margaret Filardo	FPC
Barry Espensen	CBB
Mike Buchko	Powerex
Russ Langshaw	Grant PUD

Rudd Turner	COE
Ruth Burris	PGE
Bruce MacKay	Consultant
Rodney Cook	PPM
Jeff Loughley	COE
Tom Le	PSE
Scott Bettin	BPA
Bill Hevlin	NOAAF
Bern Klatte	COE